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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/810,802

03/16/2001

Elwyn B. Davies

476-1993

6812

7590

08/02/2004

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EXAMINER

DENNISON, JERRY B

ART UNIT

PAPER NUMBER

2143

DATE MAILED: 08/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/810,802

Applicant(s)

DAVIES, ELWYN B.

Examiner

J. Bret Dennison

Art Unit

2143

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This Action is in response to Application Number 09/810,802 received on 16 March 2001.
2. Claims 1-20 are presented for examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 7, and 12-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Chuah et al. (U.S. Patent Number 6,408,001).

3. Regarding claims 1, 16, 18, and 20, Chuah discloses a method of allocating traffic between a plurality of paths in a communications network comprising at least two nodes, said paths each being between the same pair of nodes (Chuah, col. 4, lines 40-55), and wherein said traffic comprises packets (Chuah, col. 4, lines 55-65), each packet being a member of a flow and comprising a flow label (Chuah, col. 5, lines 15-20), said method comprising allocating the packets between the paths on the basis of the flow labels (Chuah, col. 6, lines 25-40).

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4. Regarding claim 2, Chuah discloses the limitations, substantially as claimed, as described in claim 1, including wherein all the packets within a particular flow have the same flow label (Chuah, col. 5, lines 19-21).

5. Regarding claim 3, Chuah discloses the limitations, substantially as claimed, as described in claim 2, including wherein said method is arranged such that in use, substantially all packets with the same flow label are allocated to the same path (Chuah, col. 5, lines 29-31).

6. Regarding claim 7, Chuah discloses the limitations, substantially as claimed, as described in claim 1, including wherein the packets are allocated between the paths such that all the packets from the same flow are allocated to the same path (Chuah, col. 5, lines 29-31).

7. Regarding claim 12, Chuah discloses the limitations, substantially as claimed, as described in claim 1, including wherein said paths are physical paths (Chuah col. 4, lines 30-45).

8. Regarding claim 13, Chuah discloses the limitations, substantially as claimed, as described in claim 1, including wherein said paths are logical paths (Chuah col. 4, lines 30-45).

9. Regarding claim 14, Chuah discloses the limitations, substantially as claimed, as described in claim 1, including wherein said packets are internet protocol packets (Chuah, col. 4, lines 65-67).

10. Regarding claims 15 and 19, Chuah discloses the limitations, substantially as claimed, as described in claims 1 and 16, including wherein the paths are associated with an interface between an electrical region and an optical region of the communications network (Chuah, col. 4, lines 17-30, Chuah teaches that the invention is applicable over and packet type transport).

11. Regarding claim 17, Chuah and Soirinsuo disclose the limitations, substantially as claimed, as described in claim 16, including wherein the apparatus is a communications network node suitable for use within the core of a communications network (Chuah, col. 4, lines 30-45).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chuah in view of Soirinsuo et al. (U.S. Patent Number 6,084,855).

12. Regarding claims 4-6, Chuah discloses the limitations, substantially as claimed, as described in claim 1. Chuah teaches that the flow labels are determined based on threshold values and packet density (Chuah, col. 2, lines 25-65). Chuah does not explicitly state wherein said flow labels are selected from a pre-specified range of values in a pseudo random manner such that the flow labels fit a uniform distribution. In an analogous art, Soirinsuo discloses a method and apparatus for providing a fair traffic scheduling based on the number of packet flows (Soirinsuo, see Abstract) wherein flow labels are chosen pseudo randomly and uniformly (Soirinsuo, col. 7, lines 40-44). Therefore, it would have been obvious to one having ordinary skill in the art to incorporate the packet flow label selection of Soirinsuo into Chuah for the purpose of making any set of bits with the flow label suitable for use as a hash key by routers, for purposes of looking up the state associated with the flow (Soirinsuo, col. 7, lines 44-46).

13. Regarding claim 8, Chuah discloses the limitations, substantially as claimed, as described in claim 1. Chuah does not explicitly state applying a hash function to the flow labels and allocating the packets between the path on the basis of the results of the hash function. In an analogous art, Soirinsuo discloses setting the label as a hash key suitable for use by routers (Soirinsuo, col. 44-46).

14. Regarding claim 9, Chuah and Soirinsuo disclose the limitations, substantially as claimed, as described in claim 8, including specifying a range of hash result values for each of the paths (Soirinsuo, col. 44-46, Soirinsuo teaches setting the label as a hash

key suitable for routers to use, which means routers specify a range of hash result values for each path).

15. Regarding claim 10, Chuah and Soirinsuo disclose the limitations, substantially as claimed, as described in claim 9. Chuah and Soirinsuo do not explicitly state wherein said ranges are specified on the basis of information about the total volume of traffic. However it would have been obvious to one in the ordinary skill in the art at the time of the invention to base hash result value ranges on total volume traffic to schedule fair traffic allocation as disclosed by Soirinsuo (Soirinsuo, col. 9, lines 4-10).

16. Regarding claim 11, Chuah and Soirinsuo disclose the limitations, substantially as claimed, as described in claim 9, including wherein said ranges are specified on the basis of forecast information about the volume of particular flows (Soirinsuo, col. 9, lines 14-20).

Conclusion

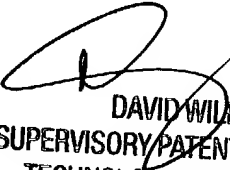
Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Bret Dennison whose telephone number is (703)305-8756. The examiner can normally be reached on M-F 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Wiley can be reached on (703)308-5221. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

J. Bret Dennison
Patent Examiner
Art Unit 2143



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